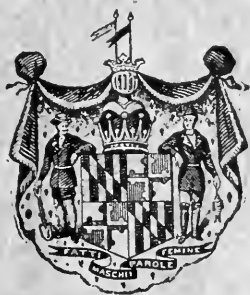


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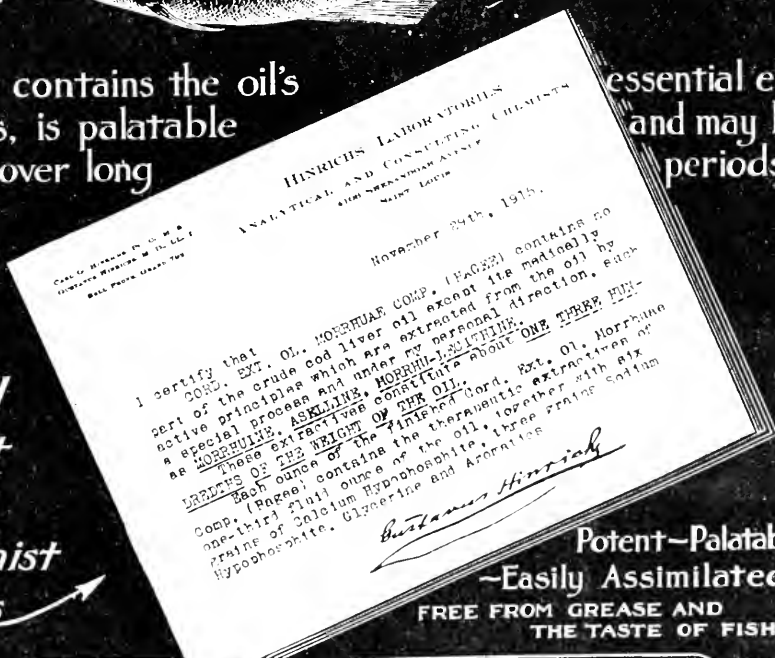
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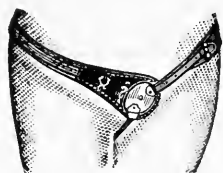
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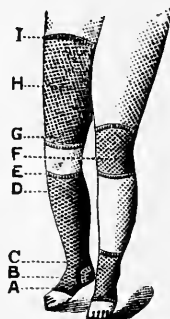
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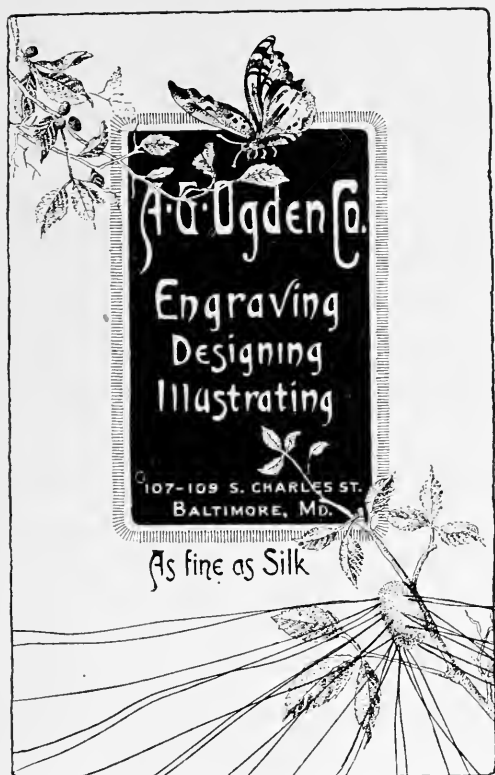
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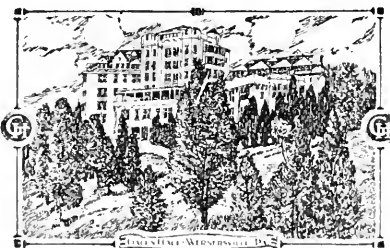
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A SURGEON'S EDUCATION IN CANCER— CONCLUSIONS AFTER NEARLY THIRTY YEARS OF CLINICAL OBSERVATION.*

By Howard Lilienthal, M.D., F.A.C.S.
New York.

Attending Surgeon to Mt. Sinai Hospital and Bellevue Hospital.

SO MUCH has been said and done and such a literature has arisen during this great anticancer year that it is difficult to find a point of vantage where you may view the battle from a novel aspect.

The lessons gleaned and the conclusions reached from individual experience must carry a certain interest, however, and I trust you will pardon me if in this little address I try to place before you my own attitude in regard to cancer, after nearly thirty years of active surgical work.

And first of all, let me say that when I compare the present state of cancer surgery with that of thirty years ago I find one elemental difference. It is the presence of justified hope where before there was a feeling of helplessness.

Operative recoveries there were in those days, but always, even in the milder cases, an actual cure or the total disappearance of symptoms for a number of years was a surgical curiosity of unusual interest. Now, however, there is a distinct expectation of permanent recovery in the majority of the early operable cases.

We shall briefly discuss a few of the pathological conditions and the organs invaded and then conclude with general considerations.

Let us begin with cancer of the breast. In 1886 success was largely a matter of luck. In scirrhus carcinoma, slowly growing and almost noncellular, attacked by the so-called "radical" operation of those days, with exploration of the armpit and the removal of palpable axillary nodes, we might reasonably have expected a long respite, if not an actual cure. Recurrences—or *relapses*, as local returns of the disease should properly be called—were far commoner than they are today, and in the softer or more malignant forms of the neoplasm there was seldom relief for more than a few months. Patients came, as a rule, with advanced cancer and often with widely distributed metastasis.

*Read at the meeting of the Baltimore City Medical Society, October 29, 1915, for the American Society for the Control of Cancer.

In contrast, today my patients with mammary tumors usually come in the earlier stages, often with no palpable axillary nodes. The public has already reaped some of the advantages of education from the cancer campaign.

It appears to me that with the modern early operation the more malignant forms of mammary carcinoma present a better chance for actual extirpation than did the scirrhus of years ago. This happy change began when Halstead and Meyer evolved the epoch-marking method of complete extirpation through removal of the pectoral muscles. Before this time the nodes beneath the lesser pectoral were rarely, if ever, systematically removed so that many of the patients might have done almost as well without operation. We now also have the transverse incision of Stewart, which leaves the shoulder unscarred—a most desirable improvement.

THE STOMACH.

During my term of house staff service in the hospital, 1886-88. I did not see a single extirpation of gastric cancer. The procedure was a rare one, and seldom undertaken unless a palpable tumor clinched the diagnosis. Now we know that a diagnosis so confirmed is in most instances combined with a fatal prognosis. As well wait for jaundice in gallstone disease, or fecal vomiting in intestinal obstruction. In a subject more than forty years old we should operate for persistent "indigestion" and so eradicate many cases of early gastric cancer. We have in the X-ray an indispensable aid in disease of the abdominal hollow viscera while still in the hopeful stage.

THORACIC ESOPHAGUS.

Only one case of the *cure* of cancer in this location has ever been reported—the classic one of Torek. Yet in a disease so distressing and so absolutely hopeless without surgery we are justified in continuing our efforts, even though only an occasional recovery brightens the gloom. I have every confidence that success is a matter of time and the advance of technical methods.

PANCREAS.

I have never seen recovery in a case of carcinoma of this organ. Cholecystostomy or cholecystenterostomy may relieve the jaundice—but beware of basing a fatal prognosis on the operative discovery of a stony hard pancreatic tumor. You may be dealing with chronic pancreatitis, and the doomed man may some day return in blooming health to mock you.

PROSTATE.

When the microscope reveals unsuspected cancer in the enucleated senile prostate permanent cure or long relief of symptoms may still follow; but this is never the case with the tumors which have extended beyond the capsule.

THE INTESTINE.

Thirty or more years ago intestinal surgery was rarely seen except in cases of gangrene or injury. The work of Senn and Mur-

phy and the other pioneers was yet to come. Now resection of the colon for localized carcinoma is common. It is not regarded as extra hazardous, and the proportion of operative cures is correspondingly great. A man whose transverse colon I resected twenty years ago for carcinoma died recently of carcinoma of the sigmoid. Either it was a coincidence or he exemplified a *tendency to cancer*.

HYPERNEPHROMA.

In the early nineties I began to see these cases. Most common in the kidney and due probably to degenerated adrenal tissue nephrectomy was our choice as soon as the diagnosis was made, the only important contraindication being the presence of secondary or metastatic tumors. But it is now recognized that for years there may be a solitary metastasis, and that if operable it may be removed at the time of the nephrectomy with a good chance for a long period of relief. I have even concluded that if no *inoperable* secondary tumor exists multiple metastases when easily removable should not forbid nephrectomy, together with the simultaneous extirpation of the metastases.

TUMORS OF LOCAL MALIGNANCY—CAROTID BODY ENDOTHELIOMA.

The writer has observed a number of these interesting cases and has operated in three in his own practice. While this form of neoplasm is rare, yet it is worthy of some consideration. It originates in the structure found at the bifurcation of the carotid artery, and because of its painlessness and slow growth it is rarely approached until it has implicated important structures, so that in even the comparatively early cases extirpation is possible only by resection of the carotid—external and internal—the deep jugular vein and even the vagus. Relapse is the rule, in spite of apparently wide excision, but metastasis is so rare that only one case has been reported. (Callison and Mackenty, *Annals Surgery*, No. 59.) Cachexia due to absorption of toxins is a very late symptom even in large tumors. The whole picture suggests a resemblance to the so-called nonmalignant hypernephromata, which probably never come to operation until something changes their character to one of malignancy. Can it be possible that these clinically "nonmalignant" tumors which are anatomically malignant owe their innocence to the absence of something which for want of a better name we may call the Germ of Malignancy? And that their character changes when infection by such a germ occurs?

COLEY'S TOXINES IN SARCOMA.

Since its inception I have watched with interest the development of this remedy, and I have consistently employed it. Just how it operates is not known, but after years of incredulity the surgeons of this country appear inclined to favor it. I have seen three cases in which after the incomplete removal of sarcomata the remainder of the growth has disappeared under the influence of the toxines. In all the cases the diagnosis had been confirmed by histology. One patient is well after more than ten years, another after five

years, the third two years. I think I was the first to suggest its employment after apparently radical extirpations of malignant growths, and I still use it in these cases. When the patients gain in weight during the treatment the prognosis is good. In the inoperable cases it should be used until we have something better. The cure of one otherwise hopeless case in a hundred justifies the remedy, and I am sure the ratio is higher than that.

X-RAY AND RADIUM.

Since this is a recital of personal experience, I can report almost nothing upon the subject of radiotherapeutics in cancer. In superficial epithelioma of parts where a scar would be most troublesome, say the eyelid, this form of therapy is applicable. I have seen good results with almost no cicatrization. Perhaps the day will come when I shall feel confidence in a wider use of these wonderful forces. Kelly's work gives promise of this.

With the present tendency to ascribe all advance in medical science to the laboratory worker, it is interesting to note that the improvement in the treatment of cancer is nearly all due to progress in clinical surgery—the good judgment derived from experience combined with improved technique. We dare now to take risk which would formerly have been regarded as unwarrantable, e. g., the extirpation of all cancer-bearing tissue in the case of uterine carcinoma may have occasionally hastened the end, but it has also apparently *cured* what formerly would scarcely have been relieved.

And this brings us to the discussion of the proper treatment in cases which border upon inoperability. A volume might easily be filled with argument and with illustrative instances.

Naturally, the individual surgeon must judge for himself what to do in a given case, yet certain broad general rules have formulated themselves in my mind.

The objects to be attained by the surgery of cancer are:

1. Cure.
2. The prolongation of life.
3. Relief of pain.
4. Relief of conditions offensive to the patient and those about him.

1. *Cure*—This is to be hoped for in the early cases and in a few of the later ones. Even with the result of deformity or great physical disability it is astonishing how a resourceful person can make the most of conditions which at first sight appear intolerable.

An operation which has cure as its object may be as extensive and dangerous as the total extirpation of the growth demands; but palliation alone should be accompanied by little risk. Never is good surgical judgment more indispensable than in making this decision. The brilliant pyrotechnic operation which results after arduous effort in merely getting the patient off the table alive is an abomination in surgery. In a carcinoma of the sigmoid with infected

pelvic nodes, better an enterocolostomy than the unsuccessful attempt, almost fatal in itself, to eradicate the disease.

2. The mere *prolongation of life* may be of such importance to the family of the patient that the remote possibility of a cure by an extremely hazardous operation would be considered undesirable by an unselfish patient, and we are not justified in running counter to his wish.

3. *Relief of Pain*—An operation which promises analgesia should not be denied except in what may be called the terminal stages of the disease, when opiates will not lose their power before the end. Nerve resections, division of the sensation tracts in the cord, amputations—all are useful procedures rendering more tolerable the last distressing days.

Permanent colostomy will prolong for months or years in comparative comfort the life of one suffering from inoperable rectal carcinoma. During this time a lifework may be completed or a problem may be solved.

4. *Relief of offensive conditions* may be secured by operation when a cure may not be hoped for. In ulcerating cancer of the breast the removal of the discharging part with immediate skin grafting has been followed by a period of comparative comfort for the patient and those about her. Hysterectomy in cases too far advanced for radical operation will still be justified by eliminating foul discharges.

CLINICAL AND LABORATORY DIAGNOSIS AT TIME OF OPERATION.

The status of microscopy as a means of diagnosis during the operation has greatly changed in the past quarter century, and it appears likely that further developments along this line and also in chemical diagnosis may add much to the knowledge which immediately influences the surgeon's decision. At present there is a tendency away from the idea of "removing a specimen" some days before operation. It must be admitted that unless this can be done with the cautery knife there is grave danger of spreading the disease by what may be called traumatic massage into the neighboring lymph spaces. In indurated tissues, when the lumina of the veins are held wide by their rigid walls, actual malignant embolism may well be feared.

There is a broad general principle that any tumor had better be removed, the type of the complete operation depending upon the character of the neoplasm as determined by gross or microscopical inspection immediately after its excision. While this examination is going on the wound may be sutured so that no time is actually lost in case the report should be favorable, and if the verdict is unfavorable the radical operation can be proceeded with as if nothing had been done. Narcosis is advisable because of the bad moral effect upon the patient when he must be told of the suspicion of malignancy and the instant necessity for further surgery.

In the mammary and prostatic tumors the method of removing

a specimen for previous—and not immediate—examination is particularly unwise, because of the frequent existence of easily overlooked cancer in a small area of an otherwise innocent tumor.

It has been said that an obvious clinical diagnosis is alone sufficient to warrant a radical operation, and this principle may be subscribed to when the contemplated operation is not too hazardous. I recollect the case of a woman in her late fifties who had a painless, indurated, nodular left breast, with shrinking of the mammary tissue and with purplish discoloration of the fixed integument. There were hard lymph nodes in the armpit. The case was plainly one of rapidly growing carcinoma, and a concurring diagnosis was made by another surgeon. After the radical amputation the specimen was incised and chronic suppurative mastitis was disclosed. The woman made a good recovery, but she had lost her left pectoral muscles and had been subjected to an operation of greater magnitude than necessary. This was before the days of accurate frozen section work, but had only the mamma been removed and even grossly sectioned the radical operation would have been avoided.

Another patient, in which as house surgeon I assisted the late Dr. P. F. Mundé, was operated upon for what was diagnosed as an ovarian cyst of large size. On entering the abdomen the "cyst" came away as straw-colored ascitic fluid, but the entire pelvis was filled with a whitish cauliflower-like mass, with secondary growths studding the viscera everywhere. The main tumor appeared to arise in one of the ovaries. We were so sure of malignancy and of the utter hopelessness of any attempt at cure or alleviation that the abdomen was closed without even the removal of a specimen. Prognosis fatal. But the woman recovered and remained well, the ascites not recurring.

To spare the patient a hopeless and dangerous operation I have found useful the excision of a distant node or tumor. In suspected gastric cancer I have excised by a minor operation a lymph node from the supraclavicular region, a positive diagnosis of malignancy resulting. The patient was spared an abdominal section. This gland, called Virchow's, is commonest on the left side, and I have often wondered if the presence of the principal lacteal duct in this region might not in some way have determined the site of the metastasis.

And now, after these many years, with their inevitable lessons and with the wonderful improvements in surgical possibilities, we are still confronted with two tragic obstacles. The first is the layman's fear of operation in cancer, and the second the inexcusable attitude of procrastination which is still maintained by so many in the medical arm of our profession.

Lumps in the breast are, alas, still treated by placebos until the diagnosis hurls itself upon the physician and patient alike.

Cancer of the rectum is treated symptomatically, often as a case

of "piles," without even a digital examination, until obstruction of the bowels presents its classic misery.

Gastric carcinoma is coddled until stenosis or hemorrhage appear.

Cancer of the tongue in its early and easily curable state is irritated with caustic until the lymph nodes become infected and the hope of cure is gone.

The woman of 45 with cancer of the uterus is still vainly soothed and "observed," often without vaginal examination, in the hope that the irregular show of blood may turn out to be a climacteric phenomenon.

And so I might easily catalogue all the regions which are commonly affected by malignant neoplasms.

In a recent study of the writer's cases it was shown that the *average* time which elapsed between the first objective signs of cancer and the visit to the surgeon was a year. Nearly every patient had consulted a physician soon after the discovery of the first suspicious sign, and in nearly every instance more or less delay was due directly to the disinclination of the doctor to tell the disagreeable truth to some one in the family. It is often best not to alarm the patient himself, and I have heard our venerable Abraham Jacobi say that especially the man who says he wishes nothing hidden from him is the one who secretly least desires to know that he has a fatal malady. But the disease must be properly treated, and some one has to be told.

In every case of cancer there must be some day—perhaps some hour or some moment—when the change occurs from the possibility of cure to the certainty of a fatal ending. There may be no signal by which nature announces this change, and it may be inappreciable to human observation. Therefore, we should regard every case of cancer as urgent, and operation should be delayed only for good and sufficient reasons. Certain forms of the so-called precancerous lesions before the suspicion of actual malignancy may be treated less radically until it becomes evident that a cure cannot be thus effected. Then they should be considered cancer, even if occasionally a benign neoplasm is extirpated.

Some years ago one of my most valued patients, a man 54 years old, consulted me about a small indurated ulcer of the rectum. A few weeks before he had been in the hands of an irregular practitioner to be relieved of hemorrhoids "without operation." The ulcer looked suspicious to me, and I suggested that a specimen be removed for immediate microscopic diagnosis. "Why, doctor, you don't mean to say you suspect anything serious, do you?" I was asked, and my reply was, "I don't wish to guess, I want to know." The ulcer is most probably a simple inflammation." And so it proved to be. But the patient's wife attacked me on account of what she termed my "brutality," and I lost a patient and a good friend. But what I did was the only right thing to do. I could

not act otherwise today, and the only lesson I learned was that injustice is something that cannot be avoided.

The work of our profession occupies a position between a pure science and the most intimate personal service. We have but one goal—the well-being of humanity—and the science is one of our potent means toward its attainment. But science alone will not reach those who need it most. With it must go a humanity which carries to the sufferer the conviction of cordial sympathy. Though in spite of our honesty and tact some will misunderstand us, yet others will remain loyal through failure and even in the face of death itself.

The highest reward for the effort of any man is the sincere appreciation of his fellows.

“FIRST AID IN THE NAVY.”*

By R. C. Holcomb, Surgeon, U. S. Navy.

Assistant to Bureau of Medicine and Surgery, Navy Department.

I HAVE often found that in using the term “First Aid” there was some misconception or lack of understanding in what was actually meant by the user thereof. The term “First Aid” is defined in the New Standard Dictionary as “the first treatment given to a person injured, as by accident, while awaiting regular medical attendance.” This definition is not entirely satisfactory. The inference is quite clear that this aid is rendered by persons not of the medical profession. But the term “First Aid” has been applied, and perhaps rightly applied, to the emergency service rendered by a physician. For instance, the assistance rendered by the ambulance surgeon responding to an emergency call is often only a temporary expedient and is of a nature of first aid, and is only preparatory to transporting the person to a proper place and to a proper person who may administer the necessary emergency treatment. Under most conditions he ought not be expected to render more. At our navy-yards, where we employ a large force of civilian workmen, in numbers at some yards as great as four or five thousand, one of our surgeons is constantly on duty and is prepared to render what is known in the navy-yard, and by our regulations, as “First Aid.” While the amount of assistance that he may give in some cases could be properly called emergency surgery, still, in the main, the idea is only to give that emergency treatment which is necessary in the interval between the time that the injury is incurred and such time as the man may properly be turned over to his family or some other responsible disposition made. And so we may see that first aid may not be limited to the assistance which may be given by unprofessional persons, but it may be rendered by the trained physician or the trained hospital corps man. While the trained physician may be prepared to offer assistance in the shape of

*Address delivered at the meeting of the Baltimore City Medical Society, November 11, 1915.

emergency service, it may be expedient and proper for him only to administer first aid. It often happens that more than this is neither required nor desired.

In my discussion I purpose to make a distinction between emergency surgery administered by the trained physician and first aid administered only as a temporary expedient by unprofessional or untrained persons.

Before speaking of the strictly naval features of first aid I must dispose of our responsibility in connection with the administration of first aid to the multitude of shops and manufacturing plants, a necessary adjunct of all of our large navy-yards. As I said before, the employes at some of our large yards number several thousand, many of them employed in occupations about machinery and subject to severe injury. There are one or more medical officers constantly on duty in these large yards, and they have an elaborate equipment of supplies, they have their operating-rooms with appurtenances, and are able to take care promptly of any emergency that may arise. A large yard will average several thousand injuries per year, so that daily there is a considerable amount of emergency work to be done, most of it of a minor character. The yard surgeon is prepared to see the case so quickly that the case can often be treated along aseptic lines—the employees' liability act prompting men to report their injuries quickly—and it is greatly to the Government's interest that this work should be done by the medical officer. You all know how frequently a trivial injury which should cause no disability becomes infected through neglect, and the man's services are temporarily lost by the Government because of an infection that should not have occurred. I feel that I can dismiss this subject of the treatment of civilian employes by saying that I do not believe that there is any need for a first-aid packet here, or any methods of standardization, because this work is directly under the supervision of a professional man who is, or ought to be, competent to efficiently handle the situation.

In wartime, and particularly in service with an army, the situation is entirely different. The army is a motile organization, and may be more or less constantly on the move. The medical organization must also be motile, and the advantages which the naval surgeon possesses for the routine handling of his cases, with his abundance of surgical supplies, with his instruments and operating facilities, do not exist. The delay in getting the patient to the surgeon, the environment inviting, even soliciting, infection, makes the opportunity for practicing aseptic surgery rare, unless the wound is from a small arm, and we are obliged by necessity to practice antiseptic surgery even though aseptic surgery is the accepted principle of our civilian training. The reports of the character of the wounds inflicted in the present trench warfare would indicate that infection is the rule, and that a degree of sepsis is a common element which must be taken into consideration in the treatment of all wounds.

The war will undoubtedly result in considerable advance in the field of antiseptic surgery. The new antiseptic solution devised by Dr. Dakin, who has been working with Dr. Alexis Carrel's Hospital, holds forth considerable promise. It is the result of a study of 130 different chemical antiseptic combinations, and, besides being a powerful antiseptic, is non-irritating to the tissues. It consists of an aqueous solution of 0.5 (five-tenths per cent.) concentration of sodium hypochloride, neutral to litmus and faintly acid to phenolphthalein. Within the next two or three weeks the Bureau of Medicine and Surgery will publish a volume by one of our medical observers describing the medico-surgical aspects of the European war.

The surgery of trench warfare is of much interest to us as naval surgeons. Today more than one-tenth of our medical corps is in field service. Some are with marines in Haiti, some with the legation guards in Nicaragua and China, or serving with our forces beyond the seas. Whenever our flag has left our coast, and whenever occasion comes that we should take our flag and arms to meet any foreign menace, you will find our marines in the van, and with them through cold and heat, through fire and water, will go the naval medical officer. I will leave further comment on the subject of land warfare to my friend of the army, and try to briefly outline to you how we meet the problem of "First Aid" for the man who goes out onto the sea in ships.

As long as I can remember my service experience I have been familiar with a packet known in the navy as a first-aid packet. This packet has been revised on occasion, and the last revision was approved by a joint army and navy board of service medical officers. I was naturally surprised when a first-aid conference was called to meet in Washington last August, and particularly as the circular-letter calling this conference contained a closing paragraph stating: "First-aid packages and measures of fixation, splints and transportation not only vary in different departments of the army and navy, but also differ in different armies of the various nations of the world." This first-aid conference, so I gathered from the literature that was sent me, would undertake the revision of the military first-aid packet, placing it on a more efficient basis, besides providing for a uniform accident surgery in civil life. As the conference proceeded I realized that there were other persons to whom first aid was as much of a problem as it was to the military surgeon, though from a somewhat different angle. I began to realize that a form of spastic legislation was beginning to produce new trials for the railroads, and a time seemed to be coming when, as far as first-aid requirements were concerned, it would be like the old days when as the train approached a new State line the engineer had to get out and change his headlights and make other sundry changes in his machinery in order to meet the legal requirements necessary for further progress.

While leaving the first meeting of the conference I had a very interesting conversation in the elevator with one of the members of the conference who was pleased to criticize our first-aid packet. He told me that it was too expensive to use on his railroad, inasmuch as it cost about 24 cents; that he had considered using it, but that he had found that he could make a packet himself for emergencies such as cuts and burns which would cost a great deal less and be just as good, perhaps a little better. He was right, but it seemed to me that the mistake that this surgeon made was that he did not realize that any scheme for first aid must be occupational. For instance, the first-aid packet which is carried by the soldier, and which is issued by the navy to landing parties, was never intended for a cut, it was never intended for a burn, it was never intended for a confinement case; but the emergency which it was intended to meet was the wound of a rifle bullet, an injury most likely to occur when engaged in their legitimate occupation. In other words, it provides first aid for gunshot wounds. The packet was small because it had to be. It was enclosed in an impervious container so that the man could carry it through a march in all kinds of weather and still preserve its sterility. This added to its cost. It consisted of two compresses, each sewed to a bandage so that they might not drop off in handling nor the compress itself have to be handled, and the reason why it consisted of two compresses was because a bullet wound has usually a wound of entrance and a wound of exit, and a sterile compress is therefore needed to cover both of these wounds. The letter that called the conference intimated that the packet was not a uniform issue for both of our services. This was in error, as both packets are exactly the same from the length and width of the bandage to the number of threads per linear inch in the compresses. Several European armies issue exactly the same first-aid packet. But the first-aid packet for small arms wounds was not the only packet approved by this joint army and navy board. They also considered a shell-wound packet and a packet for use in burns. They likewise considered the subject of transportation from the standpoint of the field and ship litter to the hospital ship or medical transport. At times we find it necessary in the navy to make our first-aid packet very complex. The packet, for instance, which goes with each boat in "abandon ship" contains, I might say, a little of everything. The first-aid packet for the use of aviators is a combined packet for treating fractures, burns and wounds such as our studies have shown are apt to occur to aviators. First aid for men engaged in deep diving goes to the extent of a recompression chamber. The injuries peculiar to occupation are in detail more protean than old Proteus himself, and so you see we have to modify our packet to meet the emergency or the occupation. Let us consider the sailor for a moment. In time of war he is on a battleship. He has between him and the enemy very heavy plates of armor of from nine to eleven inches in thickness, and under these circumstances we could

hardly expect him to be wounded by a rifle bullet and have need for the first-aid packet for gunshot wounds. The menace to him is not one of rifles, but is one of 13-inch shells. Those of you who have seen photographs of the horrible wounds suffered by these ships—the twisted stanchions, the torn steel plates, a condition of massive havoc gone to seed—might conclude from these views that the kind of a first-aid packet needed in this situation should include a broom, a shovel and a laundry bag for receiving the remains. Here we must not consider the fight as between man and man, but between thick-hided monsters, each single shot capable of instantly converting a ship's compartment into a slaughter house.

The history of modern naval fights would indicate that the winner receives but little punishment as compared to the vanquished. Since the battle of Lissa, in the Adriatic, between the Italians and the Austrians, a review of naval warfare would indicate that the vanquished is practically annihilated. This was true in the war between China and Japan; it was true in our fights at Manila Bay and Santiago; it was true in the Russo-Japanese War, and it was true in the two naval engagements in the present war, not to mention the sea duels such as the fight between the Emden and the Sydney. As we read of the overwhelming punishment suffered by the vanquished we realize that first aid for him would consist of some piece of wreckage with a greater buoyancy than a steel beam. The wounds of the old days from flying splinters of wood and wreckage, the wounds by cutlasses inflicted by boarders, the stabs by pike in an effort to repel boarders, are now things of the past. Today the sailor faces the chance of being wounded by a shell fragment, or many fragments; of being slaughtered in a shower of flying steel debris; of being scalded by bursting steam pipes, or of being burned to death by a blast of explosion. These are mainly the chances that he takes with the smaller caliber of shells. But ordnance is changing, and as ordnance changes so will the character of the wounds. Now, instead of the possibility of a perforating wound by a small missile such as the rifle bullet, a shell wound opens up the possibility of any kind of a fracture known, or yet unknown, and a variety of lacerated wounds that no one package has yet been devised to meet or probably will be devised. If our ships should survive the holocaust of a modern naval fight, some of the medical staff and assistants will also survive, and I believe that the situation, so far as dressings are concerned, will be best met by using the elements of surgical dressings and aid as represented by an assortment of bandages and an abundance of sterile dressing material on hand and accessible in the designated battle dressing stations. I am not persuaded, nor do I believe that the bulk of naval surgeons are persuaded, that we can meet the injuries that are apt to occur on board a battleship during an engagement by a uniform first-aid packet. The ships that turn their gray hulls and steam forth over the horizon to meet the enemy will come back the victors or they will not come back at all.

Those of the vanquished who are not killed outright by the enemy's fire will probably meet their death by drowning, for this has been the case in all recent large naval engagements.

I have tried in these very brief comments which I have given you to impress upon you some conception of naval battle casualties, and you will say to me, "If things are so, how are you prepared to meet this emergency?" The question is proper, and I will try to outline for you very briefly what we are doing so far as first aid *per se* is concerned. I will omit any discussion of the medical officers, of their training and of their studies; I will omit describing to you the course of training which is given to some 1600 hospital corpsmen at our two hospital corps schools, and who are trained and skilled in application of first-aid measures, and try to tell you what plans are made for handling wounds until the man can be transferred to the battle dressing station. First of all we must consider instruction. Our plan comprehends a uniform instruction in first aid for every man and officer in the navy. This course of instruction is uniform and consists of five periods. The instruction is given by the division officer under the general superintendence of the medical officer, and is repeated over and over again as a matter of routine. It proceeds with the same regularity as Sunday, Monday, Tuesday, Wednesday, etc. The first period consists of demonstrating and applying the first-aid packet and the shell-wound dressing. This is gone over man by man so that he will be familiar with the packet and know how to apply it readily without fumbling or handling. The second period takes up the subject of broken bones and extemporaneous methods of immobilization. The third period deals with wounds in general and aims to discuss not only what may be done, *but* in certain wounds, as wounds of the chest and abdomen, some of the things that should not be done. The fourth period deals with the control of hemorrhage and the fifth period with the resuscitation of the apparently drowned. This instruction comprises about two and a half pages of printed matter, and it is about as much as we find the average man will profitably absorb. The men are taught that prior to battle they should bathe and put on clean underclothing, and they are also taught that a free digestive tract is a better condition for going into battle than one that is engorged with food. After many years of experience in attempting to teach first aid to the enlisted man, I have found that his interest alone will not carry him very far into the subject, and I do not believe, when I consider the fact that there is always a medical officer or a hospital corpsman close at hand and more or less readily available, that he needs the elaborate instruction which might be necessary if he were more completely isolated. I am not persuaded that he needs to be instructed in emergency surgery, but I do believe that as transportation to the dressing station is largely in his hands he should be most carefully and fully instructed in this matter. This kind of instruction is being uniformly given to certain selected groups of

personnel who would be available for this purpose in time of battle, and as our instructions in this matter are contained in a small volume, I will spare you the details of them this evening. In the Bluejacket's Manual, which every sailorman has in his possession, there are sections on personal hygiene and first aid which form a part of the multitude of other subjects in which he receives instruction during his career in the navy.

Things are continually changing. Each large war brings out a new menace. How great has been the change in the surgical aspect of wounds during this great European war! No longer does the soldier consider his gravest danger the flying rifle bullet. The trench warfare on the western frontier of Germany has settled down to a duel of artillery, and the wounds that a first-aid packet might have met are now made by fragments of shell and flying debris, carrying with them into the tissues soiled and dirty clothing and all the elements for sepsis. And the indications are strong that the medical officer must be prepared to cope with an army which is no respecter of persons and whose strategy he must study in all its phases. This army is the mighty forces of the micro-organisms of sepsis. With his knowledge of their strategy he must also provide himself with effective ordnance in the shape of efficient non-irritating antiseptics, available for prompt application, and strive to develop the protective vaccines and the antitoxic serums, the surest protection against septic invasion. But the naval and the military surgeon has not been behind in appreciating the value of prophylactic measures against various infections, and I know that many of you will agree with me when I say that in the march of sanitary science he might be detected somewhere in the van. But when it comes to devising a universal first-aid packet to be used in civil activities, I would want to advance my frank and humble opinion that the naval medical officer is no more fitted to undertake that task offhand and without study and experience than is his professional brother, the civilian practitioner, prepared to solve the problems of the naval medical officer.

PERSONAL EXPERIENCES AT THE RED CROSS HOSPITALS AT PAU, FRANCE.

By J. A. C. Colston, M.D.

At the time of the arrival in Bordeaux of the detachment of the American Red Cross detailed for duty in France, conditions were quite unsettled, to say the least, and the general uncertainty as to the fate of Paris was reflected to the most distant parts of the republic. Our party landed at a small post on the river below Bordeaux during the first week of October, and we arrived at the city to find it the seat of the Government, which had been hastily transferred there only a few weeks before when Paris had been in such

imminent danger of capture. Naturally, the Government services were working under a great handicap and the needs of all departments were secondary to the one great pressing necessity at this time—the transport of the troops and the tremendous problem of the supply of the armies in the field. For this reason the many trains of the Service Sanitaire—the French Army Medical Corps—were delayed on all occasions, and, although the general policy of those in charge was the removal of the wounded as rapidly as possible, and as far as possible from the zone of the armies, it was usually four or five days, or even longer, before these trains arrived in the south of France.

However, conditions were readjusted gradually, and when the belligerent armies took up the positions which they still occupy, approximately towards the middle of October, a notable increase in the efficiency of the Service Sanitaire became evident.

Our party, consisting of six surgeons and twenty-four nurses, was assigned to duty in a town of about 30,000 population, about four hours' distant from Bordeaux. On arriving at our destination, a large casino was turned over to us for transformation into a hospital and we found the town in its various temporary hospitals caring for about 2000 wounded. As was the case throughout France, a great many public buildings had been requisitioned by the Government and the task of supplying them with hospital essentials was placed upon the community. Among the largest buildings thus taken in Pau were the Lycée, a boys' school, the Ecole Normale, the old monastery of the Sacré Coeur, the convent of the Immaculé Conception, in addition to several private houses which were used for the more slightly wounded and convalescent cases. These various buildings were equipped as rapidly as possible with the bare essentials of a hospital, beds were installed, and on our arrival 2000 patients were receiving good treatment under the care of doctors who, although taken from different specialties or from general practice, had nevertheless had some experience with which to meet the many problems that the situation offered on account of their obligatory military service. The nursing was confined to French women volunteers, practically none of whom had had any experience, but classes were soon started for their instruction under the best men of the town, in which they were grounded in the most essential subjects. All surgical work was at first done by the doctors in charge of the hospital, but the heads of the Service Sanitaire soon adopted the excellent policy of bringing back the more experienced surgeons from wherever the chances of a hasty mobilization had placed them to the more important surgical work for which there was a crying necessity in the base hospitals of the larger towns. Thus at Pau practically all the surgery, with the exception of that done at our hospital, was under the care of two men who had been doing general surgery in civil life.

The number of nerve lesions and the necessity of electrical treatment in these cases soon led to the creation of a central hospital

fully equipped with the electrical apparatus which the temporary hospitals did not as a rule possess, and here were sent as far as was practicable all the patients of this type in the French armies. The staff of this establishment was chosen for the most part from among the neurologists of note in France, and its chief was Prof. Testut of Lyons, the foremost French anatomist. With the large and varied material which he has at his disposal, Professor Testut is making a study of many different and rare types of nerve lesions, and I saw in a short visit several medical students engaged in making drawings of the most interesting cases and mapping out the zones of anesthesia and paralysis. Professor Testut was most enthusiastic at the opportunities afforded by this immense amount of material and was most extravagant in his praise of the work of our own Dr. Weir Mitchell, accomplished under somewhat similar circumstances.

The number of cases in which joints had been injured and the lack of the proper facilities in most of the hospitals for the after-treatment of these cases soon led to the establishment of several hospitals devoted solely to mechanotherapy, in which this type of cases could be treated by massage, active and passive motion and other measures to prevent ankylosis. Many of the masseurs in these hospitals are soldiers who have lost their eyes during the war and who are now taking up this occupation for the future. The apparatus in these hospitals was varied and the patients seemed to be under intelligent care.

The hospital assigned to the American Red Cross was a large and imposing casino, situated in a beautiful little park. The building itself consisted of a large central palmarium, with many shrubs and plants and roofed with glass. This was used as a recreation room, and also meals were served here to those patients able to walk. Communicating with this were several large rooms at the side, used, respectively, for restaurant, dance hall and baccarat in times of peace. These were large, airy and well lighted and afforded ample facilities for 200 patients, with the advantage that the whole establishment was on the same floor, and the restaurant kitchen below solved the food problem satisfactorily. Beds, sheets and blankets had been furnished by the hotels of the town, and with the aid of some contributions from American residents we were able to equip a small but fairly complete operating-room, and the necessary instruments we had brought with us. Good X-ray work, an absolute essential to this kind of surgery, was done in a building a short distance from the hospital, which necessitated the use of an ambulance to transport the patients. However, the ambulance service was quite efficient and we experienced few delays on this account. The French ambulances are very serviceable, consisting simply of a wooden body mounted on the chassis of any large touring car, so constructed as to hold four stretchers—three being placed crosswise and one on the floor underneath the others—or six patients sitting.

Hospital trains varied considerably in make-up and in cleanliness. In the early part of the war many of the wounded were placed in cars which had been used for the transportation of horses and cattle towards the front, and many men were inclined to blame the extraordinary number of tetanus cases during the first two or three months to this insanitary procedure. However, the best opinion at present seems to consider that this early prevalence was due mainly to a lack of antitetanic serum and that the almost complete elimination of the disease during the latter part of the war is due to the routine injection of all men as soon as possible after the wound has been received.

The trains are made up either of the ordinary small freight cars so arranged as to carry nine stretchers, or passenger coaches were used with room for four stretchers to a compartment. An orderly is assigned to each car, and on all trains is a special car assigned to the medical staff, usually three or four doctors.

In this connection it may be of interest to describe briefly the various stages a wounded man passes through in his progress from the front towards a base hospital. Every French soldier carries with him as a part of his regular equipment a small emergency packet containing a piece of sterile gauze and a bandage. Connected with each battalion is a small dressing station where the wounded are collected and emergency dressings done and from where they are transported in stretchers to the first-aid station, where wounds are dressed carefully, treated with iodine and any severe hemorrhages stopped. Here also, as a routine procedure, all patients receive an injection of antitetanic serum. This station is located usually about a mile behind the firing line, and the men are now carried usually in stretchers to the field hospital, which collects the wounded from the entire division and which is usually situated about five miles in the rear. Here urgent operations are done and desperately wounded men are kept for a time at least. From the field hospital the wounded are now carried in ambulances to an evacuation hospital situated on a railroad, and here the men are distributed to the various hospitals in the rear. At the dressing station each patient is tagged, a simple diagnosis being written, with an indication of the relative gravity of the wound and the time that antitetanic serum was injected.

The incidence of tetanus during the first few months of the war was very high, and I think can be attributed entirely to lack of antitetanic serum. At this time it was quite rare to find a soldier who had received a dose before his arrival in the base hospitals, and as a result of this 10 cases developed among the first 3000 patients in Pau. These interesting cases could be definitely divided into three distinct classes—the acute cases with a short period of incubation, usually three to five days; those with an incubation period of from one to two weeks, and a peculiar mild type with incubation period of over two weeks. The acute fulminating cases of short incubation period were all invariably fatal within a few

days or hours after the onset and showed no response to treatment. This type was usually associated with extensive lacerated wounds. One case observed at a hospital for German wounded having suffered an extensive compound fracture of the right leg, with a large, dirty wound involving the soft parts of the left thigh with loss of substance. This patient developed symptoms of tetanus six hours after admission and died 18 hours later. Another remarkable case occurred at one of the French hospitals during May at a time when all the wounded were receiving antitetanic injections at the front. This patient had received a lacerated wound of the hand, but for some reason had refused to submit to the injection at the dressing station. He arrived at the hospital with about 100 other more or less badly wounded men, developed tetanus within 12 hours after admission—an incubation period of about four days—and died in 36 hours. This was, to the best of my knowledge, the only case of tetanus occurring in the region of Pau after January.

The second group of cases was the most frequent, and the mortality seems to be at least 60 per cent. One interesting case of this type developed in our hospital following a rather small but badly infected wound of the thigh, the incubation period being 13 days. The symptoms became more and more aggravated until the patient's condition was very grave and he was rapidly becoming exhausted from repeated spasms. Five days after the onset a lumbar puncture was done and 8 c.c. of 25 per cent. magnesium sulphate introduced. A remarkable change was noted almost immediately, and after several days in a semi-comatose state the patient made a satisfactory but slow recovery. This patient was also treated with chloral, bromides and repeated injections of antitetanic serum, which, however, had apparently had little effect on the progress of the disease. It would seem that the administration of magnesium sulphate intraspinally in properly selected cases would offer the best chance for reducing the mortality in this type.

The last group of cases is characterized by the long incubation period and the mild symptoms. One case observed in the German prisoners' hospital had been wounded in the leg by several shell fragments 17 days before the symptoms developed, and then ran a light course, with but little elevation of temperature, some cramps in the wounded leg and trismus. There were never any general spasms or any suggestion of opisthotonus, and the patient made an uneventful recovery.

The wounds which we saw were with few exceptions all infected. It may be stated that those caused by shell fragments, shrapnel bullets or bomb fragments will be complicated by infection certainly in 90 per cent. of the cases, and also lesions caused by rifle bullets are seldom clean, although we had a few of these through-and-through shots which healed almost immediately. At our distance from the front we saw no recent abdominal cases, as it is the practice to keep this class of patients as far as possible without transportation in the field hospitals. The mortality of these cases

must be very high when one remembers the relative rarity of an uninfected wound.

Many varieties of treatment have been used in badly infected wounds. Carrel, who has charge of an excellent hospital at Compiègne, has reported excellent results using continuous irrigations of hypochlorite of lime solution. Other surgeons have been equally enthusiastic about hypertonic salt solution, which they claim causes a hypersecretion from the wound and an early riddance of infection. Some English surgeons have used various forms of antiseptic paste, but this unsurgical procedure, which tends to dam up the secretions, has been discarded. For the treatment of the wound immediately after its infliction iodine is used invariably on account of its efficiency and convenience. English writers have recommended the application of pure carbolic acid to all fresh cases, but this, too, would seem distinctly contraindicated. In our own cases irrigation with salt solution and frequent changing of dressings gave excellent results, and in the large, badly infected wounds, with loss of tissue and very foul odor, dilute solutions of potassium permanganate had a wonderful cleaning and deodorant action. Ample drainage must, of course, be provided, and the modern tendency seems to be to introduce as little packing as possible, allowing the wound to drain itself.

Compound fractures of every conceivable nature are frequent and offer many problems in their treatment. Those involving the femur are the most difficult to treat successfully, as they are usually associated with badly infected wounds, requiring frequent change of dressings. Immobilization by means of light splints such as bamboo, which permits frequent change of dressings and continued extension, gives the best results. We were fortunate enough to have four cases of fractured femur from through-and-through shots which healed without infection. These cases were treated by plating, and excellent results obtained in each case.

The convalescence of these cases of compound fracture is always slow on account of osteomyelitis; often repeated operations are necessary to remove sequestra, and this is especially noticeable in wounds involving the small bones of the foot, in which suppuration often persists over long periods of time.

Typical infections with the gas bacillus are seen usually in the hospitals directly behind the fighting zone, and few of these cases are seen in base hospitals. We observed some infections very foul, which were associated with considerable gas production, edema and some emphysema of the surrounding tissues. These cases yielded rapidly to free incision, with hydrogen peroxide irrigations, and were probably infected with an organism of somewhat attenuated virulence which was destroyed before the onset of gangrene. The most virulent cases occur within a few hours after the wound has been received, the rapid invasion of the bacilli and the enormous production of gas causing tremendous pressure between the fascial planes, which shuts off the circulation, with gangrene as a

result. Attempts have been made to measure this pressure, and some observers at the American Hospital in Paris have found it to be above 300 mm. of mercury. In these cases a rapid amputation, irrigations and injections of hydrogen peroxide, with no attempt to close the stump, offer the only chance for recovery.

Aneurysms were in our experience rather more infrequent than would be expected. One case occurring in a French hospital, involving the femoral artery several inches below Poupart's ligament, would have been an excellent one in which to apply the principle of gradual occlusion by means of bands. The artery was, however, ligated just above the sac, with an excellent result and apparently no interference with the circulation. In our own hospital an arterio venous aneurysm involving the posterior tibial was operated upon, the vessels ligated and the sac dissected out as far as possible, a procedure which, however, resulted in considerable hemorrhage, necessitating packing. The end result was excellent and the patient was discharged without disability.

Nerve injuries were, of course, very frequent and we encountered many examples. Experience with these lesions would tend to support views already held that the best results are to be obtained from operation as early as possible, the ends of the nerve being freed from surrounding scar tissue and a suture done. As soon as possible after operation these cases would be sent to the special hospital for nerve injuries at Bordeaux, where proper electrical treatment could be started. Those cases complicated with suppuration are, of course, far less favorable, as operation is contraindicated until the infection has been controlled, and the time elapsed until this can be accomplished and the density of the scar are factors which make success doubtful.

On account of the nature of the fighting, head injuries are frequent and the mortality when the brain is involved is very high. The majority of these wounds are caused by shell fragments, and when one considers that the projectile has to pass through a dirty cap and then through still dirtier hair, it is hard to understand how infection can be escaped. Yet we had one such case in which a rather large fragment lodged apparently in the right occipital lobe. He had slight epileptic attacks over a period of several weeks, but never showed any signs of impaired vision or of increased intracranial pressure, and was discharged later quite fit for duty. Those cases in which the fragment has penetrated deeply and is associated with infection usually result in an abscess and death.

Badly smashed joints are among the most dangerous wounds that one sees, are usually associated with severe infection, and seem particularly liable to secondary hemorrhage. One case of persistent and extensive infection of the knee finally necessitated amputation as a result of hemorrhage, and another case in which a partial resection of the knee was done died from septicemia and exhaustion. Conservative measures in many of these cases gave excellent results, but they are necessarily difficult cases to handle

on account of the necessity of immobilization, which renders ready access to the wound difficult.

General mortality figures in base hospitals would, I think, be somewhere between 2 and 4 per cent, but it must be remembered that the mortality in the temporary hospitals directly behind the lines is much higher on account of the head injuries and abdominal wounds, which are not as a rule sent to the rear. The percentage of soldiers who are fit to return to active duty I should consider to be somewhere in the neighborhood of 60 or 70, but this figure would, of course, vary with the gravity of the cases sent to the particular hospital. Compound fractures of the legs and extensive joint injuries will rarely be fit for any further offensive action other than work in a munition factory.

In conclusion I wish to say a brief word of appreciation of the patients themselves. Representatives of every station in life, they are without exception cheerful, patient and optimistic. Their confidence in one's efforts is implicit and their appreciation and gratitude is most touching to those who have been in contact with them.

Book Reviews.

THE FLY. By G. Hurlstone Hardy. With illustrations by Halford B. Ross. New York: Rebman Company. 1915. Cloth. 80 cents.

This little book of somewhat more than a hundred pages deals with the laudable object, the education of the public to the non-necessity of the fly. The habits, method of propagation and eradication of the fly is simply but eloquently told. Gradually the public is being awakened to the danger of the fly. It is only now, after a very active campaign, commencing to understand that the fly is not the innocent pest that it was once thought to be, but a very active disseminator of disease. However, with the exception of screening the house, not much effort has been made to eliminate the fly. It is therefore particularly appropriate that the book before us should have made its appearance, as it plainly shows that the fly is the result of filthy living. If refuse is not permitted to stand around, the fly will not have a favorable breeding-ground. The book should find its greatest usefulness as a high-school textbook, but it can be read with profit by everybody.

THE CLINICS OF JOHN B. MURPHY, M.D., AT MERCY HOSPITAL, CHICAGO. August, 1915. Published bi-monthly. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Paper. \$8 per year.

With their increasing appearance Murphy's Clinics lose none of their freshness or tone of originality. Each succeeding issue brings some message of practical import to the busy surgeon. And now it is hard to see how the surgeon did without them.

The present issue covers a large field. Many subjects of interest are treated in a method peculiarly Murphyism. There is a talk on syphilis, and articles on tumor of the parotid gland, early carcinoma of the lower lip, traumatic cervical spondylitis, tuberculosis of sternum and ribs, and several contributions of the subject at present most dear to Murphy's heart—bone implantation. It is up to you to make your choice. Subscribe to the publication and you will be happy.

COLLECTED PAPERS OF THE MAYO CLINIC, Rochester, Minn.
Edited by Mrs. M. H. Mellish. Vol. VI. 1914. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$5.50 net. 1915.

The work being carried on at the Mayo Clinic is of such an extraordinary character that its collection into book form is an absolute necessity to the profession. Every year the staff is being augmented by enthusiastic scientists who are pursuing some special line of investigation of practical import to the surgical profession. Thus during the course of the year a great amount of literature is issued from the pens of members of the Mayo staff. So that these writings can be obtained with the least expenditure of effort, now for some years they have been annually collected and printed in book form. As a result of this practice we now have before us the sixth volume, which, like its predecessors, concerns itself chiefly with the methods emanating from the Mayo Clinic. The material of this clinic is so great and so diversified that the authors are enabled to speak authoritatively concerning the matter under discussion. As in previous editions, generous space is devoted to abdominal conditions and goitre, also goodly attention to the cancer question, technic, affections of the head, trunk and extremities and the ductless glands. Not only the surgeon, but the internist also and specialist will find these papers an invaluable aid in their work.

CANCER, ITS CAUSE AND TREATMENT. By L. Duncan Bulkley, A.M., M.D., Senior Physician The New York Skin and Cancer Hospital, etc. New York: Paul B. Hoeber. Cloth, \$1.50 net.

This book is rather unique in so far as it deals with the medical aspect of cancer, a disease hitherto treated mostly from its histological and surgical aspects. Much labor has been expended in the effort to determine the cause of cancer, and book after book has been devoted to its surgical treatment, little heretofore having been written concerning its medical aspect. Bulkley is convinced that the basic cause of the disease resides in some derangement in the vital forces of the organism, as influenced largely by diet and mode of life. The author is correct when he states cancer is rarely treated medically before being subjected to operation, and practi-

cally never after. It is against such a practice as this that he voices his protest. Undoubtedly the medical profession as a whole will not subscribe to the ideas enunciated within the above-mentioned book. Although the protocols are indeed revolutionary, they should be carefully digested before being subjected to contumely, as a man of the professional standing of Dr. Bulkley would not without due consideration place deductions so at variance with present-day notions. Though the reviewer cannot truthfully record an instance in which he personally knows of a cancer being cured by medicinal agents, he is broadminded enough to grant that such is within the realms of possibilities. At any rate, the present work should stimulate interest in and renewed effort to conquer this dire malady.

MEDICAL ETHNOLOGY. By Charles E. Woodruff, A.M., M.D., Author of "The Effects of Tropical Light on White Men and Expansion of Races;" Associate Editor of *American Medicine*; Lieutenant-Colonel United States Army, Retired; Member American Therapeutic Association; Fellow Medical Association of the Greater City of New York; Member American Association for the Advancement of Science. New York: Rebman Company. 1915. Cloth, \$2.00 net.

The above-mentioned book is devoted to a discussion of the many factors which account for the present races and subraces of man. The author undoubtedly proves that all the laws which govern the evolution of adaptation of lower animals to the survival of the fittest apply with equal force to man. He states it fully explains the high death rate of immigrants and their eventual extinction or change of type. Much literature has been written on this subject recently, therefore the appearance of this book is particularly propitious.

WHAT EVERY MOTHER SHOULD KNOW. By Charles G. Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. New York: Paul B. Hoeber. Paper, \$0.35 net. 1915.

This little booklet, written in popular style, contains the essence of what every mother should know concerning the rearing of her young. It contains concise and practical lessons on baby hygiene, including clothing, sleep, the bath, bathing, maternal nursing, artificial feeding, food formulas for well children, feeding from the first to sixth year, dentition and other necessary information. For the price there is not a book on the market that comes anywhere near touching "What Every Mother Should Know." It is concise, practical and thoroughly reliable. With these qualifications it should prove very acceptable to mothers. The medical profession, without any compunction, can give it their heartiest endorsement.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, JANUARY, 1916

EDWARD LIVINGSTON TRUDEAU.

THOUGH not a Marylander, still his lifework was so intimately connected with Marylanders that it is not amiss to remind our readers of the accomplishments of Edward Livingston Trudeau. Needless to remark, every physician in Maryland is thoroughly cognizant of the part played by Trudeau in the conquering of tuberculosis. His efforts in this line made him famous, as well as the foremost tuberculosis expert of America. The chief element in the attaining of this pre-eminence was his advocacy and practice of open-air treatment for tuberculosis, supplemented by moderated exercise and plenty of good nutritious diet. He was the first disciple of the great open for tubercular sufferers, and until the day of his death, November 15, 1915, preached constantly the benefits to be derived from the fresh-air treatment of tuberculosis. At the early age of 26, and just launched in the practice of his profession, he was condemned to death from tuberculosis. Realizing that such would be the result, he determined to make an effort to stay the sentence by removing from New York city, where he lived, to engage in hunting in the Adirondacks. Seeking out Paul Smith's rendezvous for hunters at Saranac, he assiduously set about strengthening his constitution. Much to his delight after two years' life of huntsman, he found himself in a much improved physical state. He therefore decided to engage in practice as a backwoods physician. A few years of this life strengthened him in the conviction that the proper treatment of consumption was open air, rest and nutritious diet. Working upon this supposition, he built a shack for the accommodation of a few patients. Laughed at and ridiculed by the profession, he persisted in his missionary work and had the great pleasure and satisfaction of seeing his theories proved true and accepted by the medical profession as the sensible method of tuberculosis. From this small beginning the plant expanded into the magnificent sanatorium of today.

Dr. Trudeau was born in New York October 5, 1848, and was the son of Dr. James Cephise Berger Trudeau. A year after his graduation in medicine he began practice in New York city, but on account of tuberculosis of the lungs was forced to discontinue practice. He therefore decided to go to the Adirondacks. His belief in the efficacy of fresh air in the treatment of incipient tuberculosis worked so well in his own case that in 1884 he founded the Adirondack Cottage Sanatorium for the treatment of incipient tuberculosis in working men and women, the first institution of its kind to be established in the United States. As a result of the example set in the advancement of the methods of the treatment of tuberculosis, Dr. Trudeau was honored by the following institutions with their honorary degrees: M.Sc., by Columbia University, in 1889; LL.D., by McGill, in 1904, and by Pennsylvania in 1913. Some people have greatness thrust upon them, others are born to greatness, and still others fight their way to greatness. Dr. Trudeau fought his way. Surely the prospects of ever attaining any eminence in the profession must have been remote from his mind when compelled to forego his practice and retreat to the mountains. But like other great men, he had the idea in him, and through what at first seemed misfortune, but which later turned out to be a blessing in disguise, was enabled to put his theories to the acid test, experience and won. These theories are now acknowledged the world over, and as a testimonial to their efficacy is the large number of arrested cases spread throughout these United States. In conjunction with the Cottage Dr. Trudeau also established the Saranac Research Laboratory for the study of tuberculosis, the first institution of its nature in the United States. Other members of the profession in the United States have done pioneer work along special lines, but few if any have done more to advance the happiness and well-being of a sorely afflicted group. Doomed to death when diagnosed tuberculosis, with not a ray of hope held out of a possible recovery, Trudeau has proven that when gotten early many of these patients can be to all intents and purposes cured and restored to the community as active wage-earners. No one in the medical profession is more deserving of the loving gratitude of his fellow-man. Sickly and of frail physique, for more than forty years he labored indefatigably for the tuberculous; in practice and by word of mouth and by writing he always held out a word of encouragement to those afflicted with tuberculosis. Though gone, his example has so engrafted itself on the profession that he will always live.

Medical Items.

THE permanent organization meeting of the Interstate Psychiatric Association was held at the Sheppard and Enoch Pratt Hospital at Towson, Md., November 23. Addresses were made by Dr. Lewellys F. Barker, Baltimore, and Dr. Henry A. Cotton, Trenton, N. J. A constitution, which had been drawn up, was voted on.

ACADEMIC DAY was observed at the University of Maryland on November 11. Announcement was made by the Provost, Dr. Thomas Fell, that the University officials hope in a short time to acquire an endowment of a quarter of a million dollars at a very conservative estimate. He also added that the outlook for making the University of Maryland the recognized State university by the next Legislature was encouraging. The event was the first since the merger of the College of Physicians and Surgeons. The three institutions now incorporated as the University of Maryland—the University proper, St. John's College and the College of Physicians and Surgeons—were represented.

DR. A. H. A. MAYER announces the removal of his office and residence to 2438 Entaw Place on November 1, 1915. Consultation by appointment; telephones, Madison 1853 and Madison 1895.

DR. JAMES J. CARROLL announces the removal of his office from the Professional Building to 405 North Charles street, Baltimore. Consultation hours, 9 A. M. to 1 P. M. His practice is limited to eye, ear, nose and throat.

DR. ROADES FAYERWEATHER, after a year's absence in the service of the American Red Cross in Europe, has resumed his practice of Orthopedic Surgery at his offices in the Buckler Building, 529 North Charles street, Baltimore. Office hours, 10 to 12 A. M. and by appointment. Telephone, Mt. Vernon 936.

DR. FREDERICK JANNEY SMITH, chief resident physician of the private medical wards at the Johns Hopkins Hospital, has resigned to become superintendent of the Henry Ford General Hospital in Detroit.

DR. RALPH B. SEEM, lately in charge of the dispensary of Johns Hopkins Hospital, has been made first assistant superintendent to fill the vacancy caused by the resignation of Dr. Karl H. Van Norman. Dr. Lewis A. Sexton has been promoted from the admitting physician to

the directorship of the dispensary, succeeding Dr. Seem.

DR. MARTIN L. JARRETT, of Jarrettsville, who was operated on at St. Joseph's Hospital recently, is improving.

DR. CHARLES A. HELLSWORTH, Belair, Md., is reported to be critically ill.

DR. WILLIAM B. HUNTER, superintendent of Kernan's Hospital and Industrial School for Crippled Children, has resigned. He will practice in Wilmington, N. C.

DR. HARRY LYMAN WHITTLE announces the opening of his office, laboratory and operating rooms for diagnosis, study and treatment of diseases of infancy and childhood at 5 East Mt. Royal avenue. Consultation hours, 2 to 5 and by appointment. Telephone, Mt. Vernon 756.

DR. DAVID SILBERMAN desires to announce the opening of an office at 1729 Linden avenue. His practice is limited to gynecology and abdominal surgery. Telephone, Madison 85. Consultation by appointment.

THE medical societies of the University of Maryland School of Medicine and the College of Physicians and Surgeons were merged at a special meeting of a committee appointed by the combined faculties at a recent meeting. Since the combination of the two schools of medicine has become permanent, it was decided that a single medical society representing both schools would bring about the best results. Dr. Albert H. Carroll was elected chairman; Dr. Elmer B. Freeman, vice-chairman, and Dr. Alexius McGlannan, secretary.

THE engagement is announced of Dr. John T. King, Jr., Johns Hopkins Medical School, of Baltimore, Md., to Miss Charlotte Markell Baker of Frederick, Md. No date has been set for the wedding. Dr. King is resident assistant to Dr. William S. Thayer at Johns Hopkins Hospital.

BIRTHS.

TO LOUIS COTTON SKINNER, M.D., University of Maryland Medical School, '01, and Mrs. Skinner of Greenville, N. C., October 16, 1915, twins—Louis Cotton, Jr., and Edward Ficklin.

RECENTLY, to Dr. and Mrs. Roland Barker Whitridge of 1726 I street, Washington, D. C., a son—Roland Barker Whitridge, Jr. Dr. and Mrs. Whitridge formerly resided in Baltimore.

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MARRIAGES.

JOHN S. B. WOOLFORD, M.D., University of Maryland Medical School, '96, of Chattanooga, Tenn., formerly of Cambridge, Md., to Miss Eliza Leiper Winslow of Baltimore, Md., October 23, 1915. Dr. and Mrs. Woolford will make their home in Chattanooga.

CHARLES PERCY NOBLE, M.D., University of Maryland Medical School, '84, of Chestertown, Md., to Miss Elizabeth M. Scanlan of St. David's, Pa., at Towson, Md., October 7, 1915.

JOHN R. PERKINS, M.D., resident surgeon of the Baltimore Eye, Ear and Throat Charity Hospital, to Miss Mary J. Miles of St. Mary's county, Md., at Baltimore, November 3, 1915. Dr. and Mrs. Perkins will go to Winston-Salem, N. C., where Dr. Perkins will begin practice.

JOHN CHRISTOPHER WOODLAND, M.D., University of Maryland Medical School, '15, of Jessups, Md., to Miss Margaret Blanch Owings of Sparrows Point, Md., at Sparrows Point, November 17, 1915. Dr. Woodland is resident physician at the State Reformatory School at Jessups.

JULIAN MASON GILLESPIE, Assistant Surgeon, U. S. P. H. S., University of Maryland Medical School, '09, formerly stationed at the U. S. Marine Hospital, Louisa, Va., to Miss Verna Mary Duplantis of New York City, at New York, October 12, 1915. Dr. and Mrs. Gillespie will be at home to their friends after November 1 at 609 West 137th street, New York.

WARFIELD THEOBALD LONGCOPE, M.D., Johns Hopkins Medical School, '01, of New York city, formerly of Baltimore, to Miss Janet Percy Dana of New York, at New York, December 2, 1915. Dr. Longcope is at present on the staff of the Presbyterian Hospital, New York, and is a member of the faculty of Columbia University. He resides at 680 Madison avenue, New York city.

HARRY ALOYSIUS BISHOP, M.D., University of Maryland Medical School, '12, of Washington, D. C., to Miss Roberta Carson Morgan of Fort H. G. Wright, New York, at New York, October 6, 1915. Dr. and Mrs. Bishop will be at home after December 1 at 1430 Rhode Island avenue, Washington, D. C.

WILLIAM WIRT EICHELBERGER, M.D., University of Maryland Medical School, '04, of Rockford, Ill., formerly of Baltimore, Md., to Mrs. Anna May Steele of Evansville, Ind., at Henderson, Ky., November 24, 1915. Dr.

Eichelberger was formerly associated with Bayview Hospital.

DEATHS.

RAYMOND CLAUDE FOUT, M.D., University of Maryland Medical School, '01, of Kemptown, Md., formerly a member of the Medical and Chirurgical Faculty of Maryland; president of the Mount Airy People's Lumber and Supply Company; died in the Baltimore Eye, Ear and Throat Charity Hospital, November 2, 1915, from posttonsillar abscess, for which operation was being performed, aged 37 years.

WILLIAM M. BARTLEY, M.D., Baltimore Medical College, '95; a Fellow of the American Medical Association and one of the most prominent practitioners of North Dakota; coroner of Eddy county and a member of the Legislature; died at his home in Shenyne, November 6, 1915, from diabetes, aged 46 years.

LOUIS A. MONMONIER, M.D., University of Maryland Medical School, '64, of Waverly, Baltimore, died at the home of his niece in Baltimore, October 26, 1915, from cerebral hemorrhage, aged 71 years.

AUGUSTUS W. CROW, M.D., College of Physicians and Surgeons, '75, died at his home in Livia, Ky., July 18, 1915, from tuberculosis, aged 64 years.

EDWIN D. SCHAEFFER, M.D., Baltimore Medical College, '93; a Fellow of the American Medical Association; for many years a member of the school board of Reading Pa.; died at his home in that city, October 23, 1915, from septicemia, aged 48 years.

JOSEPH R. HUNT, M.D., Physicians and Surgeons, '88, of Laurel, Md., died at his home in Laurel, from paralysis, October 19, 1915, aged 50 years. Dr. Hunt was a director of the Citizens' National Bank of Laurel and was Mayor for one term.

EDWIN D. SCHAEFFER, M.D., Baltimore Medical College, '93, one of the leading physicians of Reading, Pa., died suddenly at his home, 317 South Sixth street, October 22, 1915, from blood poisoning, aged 47 years.

CARL A. HOLLINGSWORTH, M.D., University of Maryland Medical School, '81, of Belair, Md., died at his home after a lingering illness, November 11, 1915, aged 58 years.

PHILIP R. HENGST, M.D., College of Physicians and Surgeons, '83, of Waco, Tex., died suddenly in Baltimore, Md., December 13, 1915, aged 59 years.

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REPRINTS.

THE MEDICAL CORPS OF THE OPPOSING EUROPEAN ARMIES.

The Medical Times.

GERMANY.

OF all the medical corps of the nations now at war in Europe, that of the German army is undoubtedly the best organized and equipped. The surgeons of the regular army are highly scientific men, and include splendid operators as well as specialists in every branch of medicine. In addition, the reserve includes all of the best men in Germany. Over 12,000 medical men are now serving the German army as surgeons. Some are in the field and others in the various civil and military hospitals. Every regiment in time of peace has its Oberstabsarzt, or Chief Surgeon, and each battalion has a Battailonsarzt and four Assistenzärzte. In war time this force is quadrupled. Besides the non-commissioned officers and privates of the medical corps, there are many third-year medical students in the corps. These men have had considerable clinical experience, and after passing a "notexamen" or emergency examination, are taken into the corps for ambulance service. There are also many Krankenträger, whose business it is to transport the wounded from the battlefield to the nearest field hospital, after they have received first aid on the field at the hands of medical officers whose places are on the firing line. The first aid packet carried by every German soldier includes a sterile compress, bandage and safety pins. German soldiers are taught first aid, and they have been able to do effective work in this campaign. The newspapers report that the wounded Germans who have been seen by American physicians have been most skilfully bandaged.

German medicine, as the world knows, spells efficiency. German military surgery is quite abreast of the other branches of medicine, and there is a professorship of military surgery in every German university. No student can receive his diploma until he has passed an examination in this important branch.

For a hundred years there has been in Berlin an institution, now called the Kaiser Wilhelm Institute for military surgery, popularly known as the "Pepinire," corresponding to our Army Medical School in Washington. It has an attendance of about 600 students, and from this institution the army recruits most of its regular surgeons. Some physicians in serving their term of compulsory army service spend six months as privates in the line, and the rest of the time as second lieutenants in the medical corps, and a few of these later on pass the examination and enter the regular service with the title of Unterarzt.

Practically all the great surgeons of Germany, like Bier, Lexer, Friedrich, Garre, Payr and Küttner are serving with the colors, and they have with them their entire staffs. Lieut.-Gen. Prof. Dr. von Schejering is in supreme command of the German Army Medical Corps.

The thousands of American medical men who have visited the German clinics will have no difficulty in imagining what fine surgical work is being carried out in the German army when such masters of the art are in the harness.

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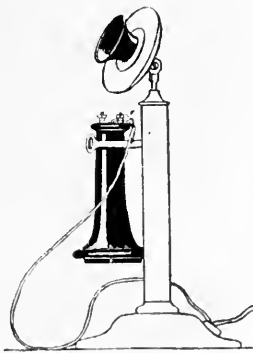
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Many German surgeons saw active service in the Balkan war, as seven Red Cross expeditions were sent to Turkey alone from Germany.

The sanitary soldiers of Germany are highly trained in finding and caring for wounded on the field. They are especially adept in distinguishing the severity of the wounds, and they possess every known means of transportation. They employ dogs to seek out the wounded lying in out of the way places, and at night searchlights aid the sanitary corps in its humane work.

When the medical history of the war is written, the accomplishments of the German medical corps will undoubtedly demonstrate that in point of efficiency it was unsurpassed.

AUSTRIA.

The makeup of the Austrian Army Medical Corps is largely patterned after that of Germany, especially in the assignment of regimental medical officers. Its sanitary soldiers are also similar, but it is believed they are not as capable as their German cousins.

The Corps is under the command of Gen. von Eiselberg of Vienna, who was compelled to leave the Clinical Congress of Surgeons before its adjournment on account of the outbreak of hostilities between Austro-Hungary and Servia.

In the reserve is found the best medical men in the empire. No figures are given out regarding the number of medical officers.

BELGIUM.

The Belgian army has four divisions, and its medical service is under the command of a director of medical services. In the field the service comprises the regimental medical service, ambulance service, field hospitals and Red Cross.

Each infantry regiment has a senior medical officer, and each battalion two officers. In addition are the stretcher bearers in command of a sergeant. Practically the same personnel is given cavalry and field artillery regiments.

There are three kinds of field ambulances, the headquarters, divisional and cavalry field ambulances.

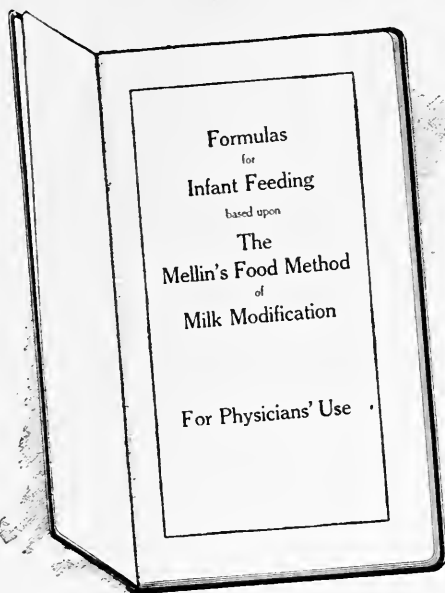
They perform the work incident upon their own outfits.

There are two field hospitals to each division, and besides there are the surgeons on the firing line, the regimental aid-posts and dressing stations. Stretcher bearers play an important part in carrying out the work of these units.

A field ambulance of an infantry division has five officers, 224 men and 65 horses. A cavalry division field hospital has five officers, 34 men and 32 horses. A field hospital carries six officers, 38 men and 24 horses.

The officers in the regular service are 1 major-general, 6 colonels, 11 lieutenant-colonels, 15 majors, 64 captains, 42 first lieutenants and 36 second lieutenants. The pharmacists have 1 lieutenant-colonel, 4 majors, 23 captains, 7 first lieutenants and 19 second lieutenants. These numbers are largely augmented now with reserve surgeons and pharmacists.

There are in Belgium 16 military hospitals. The largest are Antwerp, 525 beds; Beverloo, 350 beds; Brussels, 325; Liege and Ghent, 300; Louvain, 250; Malines, 200. Namur has 162, Mons, Tournai and Bruggs 150, and the following 100: Termonde, Ostend, Ypres, Arieu and Vilvorde.



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FRANCE.

In the French Republic considerable secrecy surrounds its army medical department, and figures are not readily obtainable. The surgeon-general has the rank of major-general, and the regular service contains a large and most capable body. A noticeable feature is the number of comparatively young men in the higher grades, many surgeons attaining the rank of major in their early thirties.

The organization of the Medical Corps is similar to that of other European armies. Each regiment has from four to six surgeons, and field hospitals from four to seven surgeons, with the usual complement of privates.

The French depend to a considerable measure on their reserve surgeons, and practically all able-bodied medical men are registered. When mobilization comes physicians report first to the commandant of the place indicated on a card every physician carries, then to the chief medical officer for their assignment. At the place of mobilization the physician draws his indemnity of enlistment, amounting to from 700 to 1500 francs, according to rank. The pay for an aide-major of the second class (corresponding somewhat to our rank of captain on the medical staff) is 6.70 francs a day. Half of this can be assigned to a wife, parent or child, a quarter to another person. The leading surgeons in the French hospitals are now at the front, and only the older men, who are unable to stand the hardships of a campaign, are on hospital duty. The Parisian hospitals are being utilized as base hospitals for the army and the older surgeons are carrying out their military duties there.

RUSSIA.

Very little is known of the Russian Medical Corps. It was not highly regarded during the Russo-Japanese war, although it suffered in comparison with the unusually well-qualified medical organization of the Japanese army. While good surgeons, the Russian officers showed a meager knowledge of military hygiene and of preventive medicine.

It is an acknowledged fact that the lessons of that war were well learned by the authorities at Petrograd, and that medical officers have been undergoing a systematic course of study with a view of perfecting themselves in every branch of military surgery. It is believed they are vastly more efficient today than ten years ago, but as yet they are an unknown factor.

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The slides are classified by diseases or subjects, the following being the respective divisions of the library:

Alaska.—Eighty-three views depicting living conditions in the Territory of Alaska, the type of villages and the diseases from which the natives suffer.

Children and Children's Diseases.—The various eruptive diseases of children are shown in 50 views. Chiefly of interest to physicians.

Health Exhibits.—Over 90 photographic slides of the exhibit of the U. S. Public Health Service at the Panama-Pacific International Exposition. Many of these views explain the means of dissemination of different diseases, the mortality therefrom and the value of preventive measures. All are original.

Hookworm.—The geographic distribution of the disease, its economic importance, the life history of the parasite, its invasion of human tissue and the resulting effects are demonstrated in a series of over 90 slides.

Indians.—Housing and living conditions among American Indians. Shown in 50 views.

Leprosy.—Forty-five slides depicting the disease. Principally of service to physicians.

Living Conditions.—Contains a relatively small number of slides. See other subjects.

Malaria.—Prevalence of the disease, the malarial parasites, larval, pupal and adult developmental stages of mosquitoes, breeding places, methods of extermination, including oiling, drainage and the types of fish destructive to larvæ; prevention of the disease by screening and the use of quinine; 275 views.

Milk.—Eighty views showing tuberculosis cows, proper and improper stabling, care and treatment of dairy herds, methods of obtaining pure milk, spread of milk-borne epidemics and the value of sanitary measures.

Miscellaneous Subjects.—Sewage disposal, fumigation and cleaning of railway cars, and views relating to Rocky Mountain spotted fever.

Mouth Hygiene.—Twelve slides showing the development of the teeth.

Parasites and Organisms.—Over 200 views of the common organisms causing the diseases of man, including different types of water organisms. Also the developmental stages of fleas, lice, flies and disease-bearing vermin.

Pellagra.—Statistical data, geographical distribution and the lesions of the disease presented by 60 photographic slides.

Plague.—Perhaps the most complete collection of original plague slides extant. Practically every aspect of plague prevention is demonstrated, including the eradication of rodents and squirrels, methods of rat-proofing, ship fumigation, the examination and classification of rats, the plague organism, and the relation of fleas to the spread of the disease. Over 500 views.

Rural Schools.—Not yet complete; 10 slides.

Service General.—The activities of the U. S. Public Health Service depicted in 320 views. Quarantine vessels and stations.



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methods of fumigation, the examination of passengers, detention barracks and quarantine procedure; the mental and physical examination of immigrants, types of immigrants and immigration stations; marine hospitals, including the tuberculosis sanatorium at Fort Stanton, New Mexico.

Smallpox.—Ninety slides illustrating the eruptive stages of the disease, the protection afforded by vaccination and the lesions thereof.

Trachoma.—The disease in its acute and chronic stages, and such effects as pannus, entropion and blindness; trachoma among the American Indians and the relief work of the Public Health Service in the mountains of Kentucky are also shown; 120 slides, many of which are colored.

Tropical Diseases.—Incomplete; filariæ, trypanosomes and intestinal parasites illustrated, together with the common infections of the tropics; 40 views.

Tuberculosis.—One hundred slides showing the economic loss from tuberculosis, susceptible races, the tubercle bacillus, pathological conditions in the lungs, the relation of the disease to improper housing and the causes predisposing to infection; also the methods of care, precautions to be exercised and the benefits of sanatorium treatment.

Typhoid Fever.—Of great public health interest. The role of uncleanness, infected milk, polluted water, improper sewage disposal and flies in the dissemination of the infection; methods of prevention, including proper care of milk supplies, avoidance of water pollution, and the prevention of fly breeding; 350 views.

Yellow Fever.—Mosquitoes in different stages of development, preventive measures, including detention camps; the discoverers of the means of transmission of the disease.

HOW TO USE THE STEREOPTICON LOAN LIBRARY.

The slides are loaned to physicians, health organizations, educators, welfare workers and others without cost. Persons desiring slides should advise the Bureau as to what subjects they are interested in, so that the proper catalogues may be forwarded. The slides should be selected by number and the request made upon the application blank. If desired, the Public Health Service will undertake to make the selection, provided the applicant will state what he wishes to illustrate. There is no arbitrary limit within which the slides are to be returned, but as the demand far exceeds the supply, it is expected that they will be returned at the earliest possible moment. Stereopticon lanterns are not loaned, but as the slides are of standard size, $3\frac{1}{4}$ by 4 inches, any lantern may be used. It is expected that slides broken by careless handling or packing will be replaced, these to be ordered from the Government contractor by the U. S. Public Health Service and the bill therefor to be paid by the borrower.

It is requested that in returning the slides a letter of transmittal be forwarded, stating the approximate number of persons to whom the views have been shown. The container should be labeled with the name and address of the sender, and returned by express prepaid or by mail. Photographs, from which it is possible to obtain slides of public health interest, will be gladly received and promptly returned.

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THIS Directory is maintained mainly for the benefit of local firms seeking the patronage of physicians and their families. Only well established and reliable concerns will be represented, and doubtless the space at our disposal will be constantly in demand. In responding to these exploitations, the reader will find it mutually advantageous to mention the MARYLAND MEDICAL JOURNAL.

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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Interol.

THE necessity for a thorough knowledge of the action of any therapeutic agent before one can secure from it satisfactory results is very strongly emphasized in the case of mineral oil.

It is surprising sometimes to note the erroneous ideas and impressions that are held by both physicians and patients regarding it. One finds it to be often used as if it were a laxative, or even cathartic agent. One hears of it being used to "clean out the bowel," and the complaint often made that mineral oil is too slow to act, or that doctor or patient cannot afford to wait for its action, shows how little its actual modus operandi is appreciated.

Mineral oil is a lubricant, and nothing else—that is, if it be of proper purity to be put into an intestinal canal. Not every oil is "safe": *i. e.*, unless hyper-refined (which most oils are not). There may remain sulphur compounds or lighter hydrocarbons, which cause unpleasant symptoms, such as nausea, eructations and flatulence, or do serious harm in the way of irritating the kidneys.

Mineral oil acts mechanically, *not* medicinally.

Hence its effects are slow to appear, especially in cases where lubrication is most needed. Unless the oil be of the correct degree of body, it does not admix with the content of the bowel.



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runs through the canal and causes "leakage."

Too much oil is just as bad as too little, and the quantity required in the individual case cannot be gauged in one general plan. That is to say, there is no such thing as a fixed dose. Nor should it be given by "rule o' thumb." The individual dose must be determined and then the dose adjusted to the needs of the individual case. After all, mineral oil should be used only to restore normal action, to train the bowels to act, and its discontinuance should always be kept in mind and sought for after it has done its work.

To discriminating physicians who take nothing for granted investigation will show that, for therapeutic use, there is but one ideal preparation of mineral oil—and that is Interol.

The world is full of fallacies. It is fed upon half-truths. It drinks in sophistry, and then wonder is expressed that the millenium is so long deferred.

Take, for instance, the unfortunate use of the terms "expensive" and "high priced," or of "costly" and "cheap."

Price, be it high or low, is what one *pays*.

It has nothing to do with what is received.

Quality, on the other hand, is what one gets—or fails to get. Service ditto.

A useless or inferior article or service, even when bought for a low price, is expensive and costly!

On the other hand, the better or higher the quality or the service that is obtainable, the higher the price—which is a great natural law. Hence high-priced should and usually does mean high quality or service.

In fact, a moment's reflection will show that the impression created in the mind of a person of average intelligence by the word "cheap" applied to a person or a thing suggests inferiority.

A cheap person or thing is apt to prove the most expensive. A high-priced person or thing usually turns out to be the most economical.

And it is a most important fact that this applies with especial force to therapeutic agents of any kind intended for use by the physician, and with fulminant emphasis to drugs or agents that have to be put into the human body.

The physician who hesitates or is influenced by "high price," provided he knows the reputation and standing of the parties marketing the product, is false to his obligation to himself and to his patient.

All of which applies with especial force to mineral oil, and particularly to Interol.

The Obstipation—Stasis—Autotoxemia Syn-

drome is complex in its etiology as well as in its nosology. Anything that interferes with the caliber of the gut, or with the free passage of intestinal contents through the tube, results in a difficult passage of the bowel contents along the intestinal canal—Obstipation.

This may be a ptosis—or displacement of the gut at some point, a kink—which is a bend produced by a bunch of new-formed tissue—abnormal sagging of suspensory structures, or dislocation of some part of the tube. This, together with abnormal dryness or lack of lubricating material, due to disturbance of the intestinal mucus glands, results in stagnation of the current, stoppage in many instances, a damming back of the current—Stasis.

As a result of these influences opportunity is given for increased bacterial or chemical action, the production of an abnormal amount of toxins—of unusual virulence, irritation and disturbance of the filtering or protective action of the mucous membrane and resulting absorption of increased quantities of poisonous material—Antotoxemia.

As a result of so many factors working more or less interdependently is the establishment of the Syndrome—a complex group of many symptoms that may simulate about any disease or diseased condition met with in medicine or any of its branches.

Furthermore, these conditions, if allowed to go uncorrected, may, and often do, result in serious and even fatal disease.

The ideal treatment for such conditions is lubrication. The ideal lubricant is Interol.

Rachitic Children.

THE value of cod-liver oil in rachitis has been so thoroughly demonstrated that there can scarcely be any question on the score of therapeutic efficiency, so the only problem arising in the use of cod-liver oil in rachitis would be on the point of palatability, and if Cord. Ext. Ol. Morrhuae Comp. (Hagee) be adopted, then this is at once settled. Cord. Ext. Ol. Morrhuae Comp. (Hagee) contains the essentials of the crude oil—the elements that give to the oil its well-marked therapeutic and nutritive properties.

A Cod-Liver Oil Preparation That Stands the Test of Practice.

BECAUSE of the many inferior forms of cod-liver oil before the public, the careful physician understands the importance of discrimination when a remedy of this character is to be pre-

scribed. Physicians who demand a pure cod-liver oil, without medicinal admixture, will find in hydroleine a standardized preparation, which fully justifies the professional confidence placed in its purity and efficacy. Hydroleine is the pure oil of native Norwegian cod, prepared by a scientific formula and approved processes. It is thoroughly emulsified, easy of digestion and readily assimilated by the system. Hydroleine is most uniform in strength and character, and is therefore of utmost value whenever a body-builder of definite quality and dependable action is desired. Being extremely palatable, its sphere of usefulness is greatly extended. Children take cod-liver oil in this form without objection, and it is acceptable to the palates of the aged and convalescent. Tested and approved by the medical profession for many years, Hydroleine is one of the few preparations of cod-liver oil entirely free of anything objectionable and which may be prescribed with confidence, for young or old, whenever such medium is required.

Winter Coughs and Colds.

THE severe and often intractable coughs of winter colds too often owe their continuance to systemic weakness. To relieve and overcome them it is essential to raise the vitality and nutrition of the whole body. For this purpose there is no remedy so prompt and reliable in its effects as Gray's Glycerine Tonic Comp., and its easily proven efficiency in affections of the respiratory tract—chronic bronchitis, incipient tuberculosis, asthma, laryngitis and catarrhal disease in general—readily accounts for its widespread use by the profession in this class of ailments.

Its regular systematic administration rapidly restores the nutritional balance, and as patients gain in strength and weight usually the most intractable coughs grow less and less and finally disappear.

Whooping-Cough a Serious Disease.

IN an address before the New York Academy of Medicine, and reported in the Archives of Pediatrics, issue of August, 1914, John Lovett Morse, A.M., M.D., Professor of Pediatrics in the Harvard Medical School, made this significant statement: "The relative mortality from whooping-cough, scarlet fever and diphtheria is essentially the same throughout the country, whooping-cough being almost everywhere more fatal than scarlet fever and less fatal than diphtheria. * * * Instead of being a trifling affair, as it is usually considered to be by the

laity, whooping-cough is a most serious and fatal disease. 'Any disease which kills 10,000 children per annum is,' as Rucker says, 'a serious one. If bubonic plague were to kill that many children in the United States in one year, the whole world would quarantine against our country. A child dead of whooping-cough is just as dead as a child dead of plague.'"

In the same issue of the journal above referred to the editor, an undoubted authority, says that "whooping-cough causes more deaths in children under one year than any other infectious disease."

In view of these startling facts, is it not just possible that the profession at large, like the average layman, has been too prone to look upon whooping-cough as an inevitable concomitant of childhood and to underestimate its seriousness?

The Bordet-Gengou bacillus is recognized as the specific cause of whooping-cough, and the most rational method of treating the disease is by means of vaccine prepared from cultures of this bacillus. It is pertinent in this connection to refer to two such vaccines which are manufactured and marketed by Parke, Davis & Co. One bears the name of Pertussis Vaccine; the other is designated as Pertussis Vaccine, Combined. The first-mentioned vaccine is indicated in cases diagnosed as pertussis, in suspected cases when a definite diagnosis is lacking, and as a prophylactic. The second is indicated in all cases of pertussis, but especially those which have persisted for some time, such infections being usually of the mixed type. The vaccines are administered hypodermically and are supplied in bulbs, in rubber-capped vials and in glass syringes. The various packages are fully described in an announcement which appears elsewhere in this journal under the caption "The Vaccine Treatment of Whooping-Cough." The advantages of the vaccine treatment are succinctly stated in the advertisement, which our readers are advised to consult.

Neurasthenia.

THE group of nervous ills which make up the clinical picture of neurasthenia often call for the administration of the bromides. Too great care, however, cannot be used in selecting the preparation to be used, but the physician who employs Peacock's Bromides may rest assured that he is using not only a sedative—and anti-spasmodic—of maximum efficiency, but one that is so pure and free from objectionable action, even when administered over long periods, that maximum benefits may confidently

be expected. One to two teaspoonfuls in water every two, three or four hours as required may be relied upon to accomplish the results desired.

Coryza—Acute Nasal Catarrh.

This condition is manifested by a local congestion of the nasal mucous membrane, with an infiltration of serum into the tissues and later an exudation on the part of the mucous membrane.

The local treatment calls for a remedy capable of relieving the engorgement by exosmosis, which can never be achieved by the use of acid or astringent preparations.

The use of Glyco-Thymoline in these cases purges the mucous membrane, relieving the congestion, and then by stimulating the local capillary circulation to renewed activity prevents a re-engorgement.

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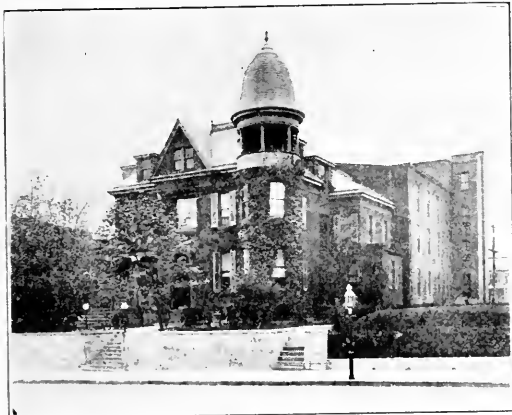
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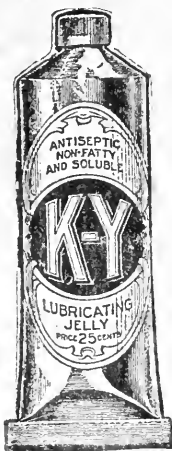
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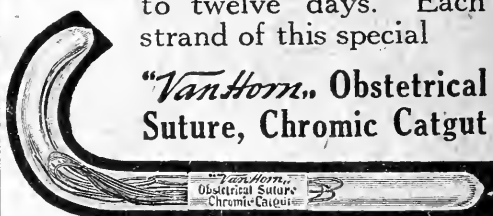
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